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MEMORANDUM

From Sally Brice-O Hara

To:

Distribution

Subj:

FINAL ACTION ON THE ADMINISTRATIVE INVESTIGATION INTO THE

SEARCH AND RESCUE OPERATION ON THE S/V FREEFALL ON 28-29

OCTOBER 2008

1. Overview:

On the evening of 28 October 2008, the Fifth Coast Guard District Command Center (Command Center) received an Emergency Position Indicating Radio Beacon (EPIRB) alert from a sailing vessel positioned approximately 102 nautical miles east of Atlantic City, New Jersey. The vessel in distress was the 44-foot sailing vessel (S/V) FREEFALL, which was transiting from Rhode Island to South Carolina with three persons onboard. The S/V FREEFALL's owner/operator reported to the Coast Guard C-130J airplane initially on scene that his vessel had rolled 360 degrees and been demasted, that a small electrical fire had occurred, and that the vessel had taken on water, but flooding had been stabilized. The owner/operator reported that he and his crew of two, which included a male who had been injured, wanted to be removed from the vessel.

On arrival from Air Station Elizabeth City North Carolina, Coast Guard helicopter CG 6003 observed S/V FREEFALL's mast hanging to the vessel's starboard side and banging against the side of the hull. Weather conditions were poor, with winds averaging 40 knots with gusts up to 50 knots, 20-40 foot seas, and night time visibility further degraded by rain and snow. Weighing the condition of the vessel, the weather conditions, and the owner/operator's request that he and his crew be removed, CG 6003 deployed its rescue swimmer to initiate the hoisting of the crewmembers from the vessel.

Once aboard the S/V FREEFALL, the rescue swimmer learned the injured male crewmember was ambulatory. The rescue swimmer and the injured crewmember entered the water in preparation to be lifted to CG 6003 via a basket hoist. During one of the multiple attempts to hoist the injured crewmember, a section of hoist cable was damaged, precluding further use without repair. The flight mechanic cut the cable with the intent to repair it for continued use. The flight mechanic was unable to locate the Quick Splice needed to make the repair, so CG 6003 deployed its final hoisting option, the emergency rescue device (ERD). While the ERD was being rigged, CG 6003 deployed a life raft and a lighted datum marker buoy (DMB). The

rescue swimmer recovered the raft, placed the crewmember inside, and remained in the water holding onto the raft and maintaining a grip on the crewmember. A large wave crashed over them, ejecting the crewmember from the raft and blowing it away, but the rescue swimmer maintained physical contact with the crewmember. As a hoist hook was deployed using the ERD, the rescue swimmer attached it to his harness and used a physical grip to maintain contact with the crewmember as both were violently pulled through the water due to the extreme weather conditions. As CG 6003 fought to maintain position, the line repeatedly slackened and then became taut, due to the strong wave action, often resulting in sharp, violent jerks to the rescue swimmer. During the last attempt to hoist the rescue swimmer and crewmember via the ERD, a sudden jerk resulted in the rescue swimmer losing his grip on the injured crewmember while the two were being hoisted. That attempt separated the crewmember from the rescue swimmer and injured the rescue swimmer. At this point, the rescue swimmer attempted to swim toward the crewmember, but was unsuccessful. He was hoisted back into CG 6003 without the injured crewmember.

Unable to rescue the injured crewmember in the water and with the rescue swimmer also now injured, CG 6003 departed the scene. At CG 6003's request, the C-130 airplane dropped a second life raft to the injured crewman. On the morning of 29 October, the injured crewmember was recovered unresponsive from the water by a Coast Guard Air Station Cape Cod helicopter. The remaining S/V FREEFALL crewmembers were removed from their vessel by another Coast Guard helicopter from Coast Guard Air Station Elizabeth City. The injured crewmember was later pronounced dead.

This document sets forth the facts that led to and evolved into this mishap, states my conclusions, and orders certain actions designed to minimize the likelihood of similar casualties in the future.

2. Findings of Fact and Opinions:

The following narrative provides the key findings that inform my conclusions and actions:

At approximately 1916 Eastern Standard Time on 28 October 2008, the Fifth Coast Guard District Command Center (Command Center) received an EPIRB alert from S/V FREEFALL, a 44-foot sailing vessel with a crew of three. In transit from Newport, Rhode Island to Charleston, South Carolina, the S/V FREEFALL was approximately 102 miles east of Atlantic City, New Jersey. At 2006, the Command Center diverted a C-130J airplane (CG 2001) to the scene and at 2010 directed Coast Guard Air Station Atlantic City, New Jersey, launch an H-65 helicopter. CG 2001 arrived on scene at approximately 2115 and established communications with the crew of the S/V FREEFALL. At 2038, Air Station Atlantic City and the Command Center determined the H-65 should not launch due to distance to the scene and weather. At 2041, the Command Center contacted the Air Force Rescue Coordination Center (AFRCC) about the availability of one of their helicopter assets. AFRCC told the Command Center it would call back. At approximately 2107, the Command Center directed an H-60 helicopter (CG 6003) from Coast Guard Air Station Elizabeth City, North Carolina to launch. At 2120 ARFCC called back to report it had no assets available at that time. The Command Center launched or diverted surface

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assets to respond, including the Coast Guard Cutters MAKO, NORTHLAND, and SENECA, as well as the M/V SEALAND PRIDE, a commercial vessel.

Using a handheld VHF-FM radio, S/V FREEFALL's owner/operator reported to CG 2001 that his vessel had rolled and sustained a broken mast, partial flooding, which had been stabilized, and an electrical fire. S/V FREEFALL's crew had all sustained injuries, the most severe being to a male crewmember who, it had been reported, had suffered a fractured left arm. S/V FREEFALL's owner/operator requested that he and his crew be removed from the vessel. During mission planning, CG 2001's co-pilot, who was handling communications between his aircraft and S/V FREEFALL, asked the owner/operator whether he would rather wait until daylight for the Coast Guard to remove him and his crew, noting that the owner/operator had reported the flooding under control. The owner/operator reported being concerned that the mast, which continued to strike the side of the vessel, would breach the hull. He also continued to be concerned about the health of his injured male crewmember.

Communications throughout the rescue were dependent on a four-part chain to transmit information between the Command Center, assets on scene, and S/V FREEFALL. The Command Center communicated with units on scene through Coast Guard Communications Area Master Station Atlantic (CAMSLANT). CAMSLANT relayed the Command Center's messages to CG 2001. CG 2001 communicated directly with S/V FREEFALL and CG 6003 after the helicopter arrived on-scene. CG 6003 could not hear any radio communications from the S/V FREEFALL. CG 6003's rescue swimmer was unable to effectively communicate with CG 6003 on his hand-held radio while he was onboard S/V FREEFALL or in the water. The Command Center provided information it received about the crewmember's arm injury to the Coast Guard flight surgeon via a separate telephone connection. Radio communications were described by all participants as poor, with one exception. CG 6003's Pilot in Command (PIC) reported that Ultra High Frequency (UHF) communication between CG 6003 and CG 2001 was excellent. CG 2001 reported that quality of communication with the Command Center, accomplished via a High Frequency (HF) relay with CAMSLANT, was uneven being sometimes clear and sometimes poor. CG 2001's Very High Frequency (VHF) communications with the S/V FREEFALL were poor unless the airplane was very close to the vessel. The Command Center was unable to achieve a phone patch through CAMSLANT to talk directly with CG 2001 or CG 6003. The information that was exchanged throughout the incident was not sufficient for the flight surgeon to make a definitive recommendation on whether or not to attempt a hoist rescue of the injured crewmember.

On the morning of 28 October, maintenance personnel performed a daily Pre-Flight inspection of CG 6003. This inspection, which is typically performed by 2 to 5 mechanics, takes several maintenance labor hours to complete, and is valid for 24 hours. The flight mechanic on the rescue flight did not take part in this inspection nor was it his responsibility to do so. The inspection is performed according to the Pre-Flight Maintenance Procedure Card (MPC) and item 34.1 requires the inspection and inventory of SAR equipment, survival gear, and mission essential publications in accordance with the Air Operations Manual, COMDTINST M3710.1

(series) (Air Ops Manual) and Coast Guard Technical Order 1H-60J-1 (Flight Manual). The inspection was logged into the Aviation Logistics Management Information System (ALMIS).

Later on 28 October, CG 6003 conducted a Maritime Security Response Team (MSRT) training mission, which required the helicopter to be reconfigured. The rescue basket, litter and rescue sling were removed, a gun mount was installed, and the right side troop seat was placed in the up/stored position. After the flight, maintenance personnel conducted a Post-Flight inspection of the helicopter, which is done according to the Post-Flight MPC. Post-Flight MPC item 36.p requires the inspection and inventory of SAR equipment, survival gear and mission essential publication in accordance with the Air Ops Manual and the Flight Manual. The flight mechanic on the rescue flight did not conduct the Post-Flight inspection, nor was it his responsibility to do so. This inspection was logged into ALMIS after completion

A device known as the Quick Splice, which is used to splice the end of the hoist cable in the event it is damaged and manually cut by the flight mechanic, is considered a piece of SAR equipment according to the Air Ops Manual and Flight Manual but neither the Pre- nor Post-Flight MPCs specifically identify the SAR equipment to be checked during these inspections. The MPC's instead refer to the manuals.

Accordingly, both the Pre-Flight inspection conducted on the morning of 28 October and the Post-Flight inspection conducted after the MSRT flight should have included an inspection of the Quick Splice, but there is no evidence that the personnel who conducted those inspections did so or not.

CG 6003's rescue swimmer and flight mechanic conducted an abbreviated pre-flight check prior to launching. This type of check is not one required by Coast Guard regulation, does not have a checklist, and should not be confused with the Pre-Flight inspection performed according to the Pre-Flight MPC. Rather, it is a customary practice within the aviation community, in which the flight mechanic and rescue swimmer conduct a last-minute check for discrepancies or deficiencies prior to flight. In this case, the rescue swimmer conducted a check of the rescue swimmer gear bag and EMS kit, while the flight mechanic performed a brief check of the gear in the cabin. This abbreviated pre-flight check to determine whether the aircraft is equipped for its mission is not a complete inventory of SAR-specific equipment required onboard, and the flight mechanic did not check whether the Quick Splice was onboard.

While the flight mechanic and rescue swimmer were conducting this abbreviated pre-flight check, CG 6003's pilots were conducting a separate pre-flight inspection. Their inspection is required, does have a checklist, and is oriented toward ensuring the helicopter is safe to fly. It is an inspection predicated on previous completion of a Pre-, Thru-, or Post-Flight inspection conducted according to the applicable MPC, and it can be done in a relatively brief amount of time. The pilots' pre-flight inspection does not include inspection of SAR equipment.

In transit to the scene, the crew of CG 6003 completed the Rescue Checklist, Part I in accordance with the Flight Manual. The purpose of this checklist is to minimize the time the helicopter

spends in a hover by preparing the aircraft for search and rescue operations. While this checklist includes ensuring that cable cutters, which are used to cut a damaged hoist cable, are accessible, it does not include a check to ensure the Quick Splice is readily accessible.

The weather during the time CG 2001 and CG 6003 were on-scene was poor, with winds averaging 40 knots with gusts up to 50 knots, 20-40 foot seas, and night time visibility further degraded by rain and snow.

At approximately 0019 on 29 October, CG 6003 arrived on scene. CG 6003's PIC had been briefed by CG 2001 that the owner/operator had asked that he and his crew be removed from the vessel. Hovering over the S/V FREEFALL to conduct an assessment of the situation, CG 6003's PIC described the vessel as demasted, with the mast hanging from the starboard side, riding low in the water, and appearing unstable. CG 6003's PIC, who was aware that a crewmember had suffered an injury, nonetheless considered the situation to be a SAR case rather than a MEDEVAC case based on his on-scene assessment. Based on the information they had received, Command Center controllers also considered the case to be SAR (specifically, a vessel taking on water case) rather than MEDEVAC because the information it had on the condition of the vessel indicated the entire crew was in danger. Before CG 6003 arrived on scene, the Command Center briefed a flight surgeon on the status of the injured crewmember. Although the flight surgeon never received enough information to determine whether a MEDEVAC was necessary, this fact was not determinative to the outcome of this mishap. CG 6003's PIC made his decision to deploy the rescue swimmer based on the owner/operator's request and the questionable seaworthiness of the vessel, based on his observation and information passed by CG 2001, not the injury to the crewmember.

CG 6003's PIC and crew agreed that with the information they had, the rescue swimmer should be deployed to the water and swim to the vessel and climb aboard. He would then determine whether the injured crewmember could be hoisted.

When the rescue swimmer boarded the S/V FREEFALL, he conducted an on-scene assessment and learned the injured crewmember had a possible back injury and possible broken ribs. He determined that the crewmember was ambulatory and capable of entering the water and being hoisted. Because the helicopter crew had pre-briefed hoisting the injured crewmember first, and because he was having difficulty hearing and talking to the helicopter, the rescue swimmer did not attempt to pass additional information about the crewmember's injuries to CG 6003. Once the rescue swimmer and the injured crewmember were in the water and clear of the vessel, CG-6003's crew made multiple efforts to deliver the rescue basket to them. Strong winds and high seas tossed the basket violently, causing the hoist cable to repeatedly lodge between the helicopter fuselage and the external fuel tank. The flight mechanic requested that the external fuel tank be jettisoned, which was done after CG 6003 moved away from the men in the water. During the next attempt, a wave broke over the basket, which submerged it and dragged it through the water. This initially slacked the hoist cable then pulled it taut. After this, the flight mechanic noticed the portion of the hoist cable in use was frayed and no longer functional. He requested and received permission to cut the hoist cable above the damaged section and attempt

to retrieve the basket by hand using the remaining cable. The flight mechanic was unable to retrieve the basket by hand in the existing conditions.

After he cut the hoist cable, the flight mechanic first looked for the Quick Splice in the Extended Avionics Rack, because that was where the Quick Splice had been kept on H-60 aircraft at the unit he had transferred from 3 months previously. Unable to find it there, he began a search of the cabin before remembering that at Air Station Elizabeth City, the Quick Splice is kept in the SAR closet, a metal locker located in the rear cabin area. In the locker hangs an apron-like piece of canvas containing several pockets secured by Velcro flaps. One of those pockets should have contained the Quick Splice. He searched the SAR closet and the apron pockets but could not locate the Quick Splice.

Because the flight mechanic could not locate the Quick Splice, the PIC ordered the Emergency Recovery Device (ERD) rigged for deployment. The ERD is a means for the flight mechanic to recover a rescue swimmer or a survivor using a winch and pulley to manually raise that person into the helicopter's cabin. Because the ERD takes some time to rig, the flight mechanic separately dropped a life raft and a lighted datum marker buoy (DMB) into the water. The PIC believed that the ERD was normally deployed with the rescue sling attached, so he did not order it to be attached. The actual standard procedure, according to the Flight Manual, calls for the ERD to be deployed without the rescue sling attached, which is how it was deployed by the flight mechanic. The ERD is a physically demanding means for the flight mechanic to recover a rescue swimmer even in calm conditions, with or without the rescue sling attached. The Flight Manual states the ERD is designed to recover the rescue swimmer, but it may be used to recover survivors. The maximum hoisting weight for the ERD is 300 pounds.

CG 6003's aircrew did not discuss how to recover the rescue swimmer and the crewmember with the ERD. Additionally, the rescue swimmer was unable to communicate effectively with CG 6003 with his hand held radio prior to the deployment of the ERD or during the attempt to recover him and the injured crewmember. There was no discussion of the ERD's maximum hoisting weight, whether the rescue swimmer and injured crewmember could or should be hoisted together, or how the ERD needed to be configured to permit the separate recovery of the injured crewmember.

While waiting for the ERD, the rescue swimmer recovered the life raft and placed the crewmember inside while he remained in the water holding onto the raft and maintaining a grip on the crewmember. Another large wave crashed over them, ejecting the crewmember from the raft and blowing it away from both of them, but the rescue swimmer was able to maintain his physical contact with the crewmember.

Once the ERD was rigged, it took multiple attempts by the flight mechanic to deliver it to the rescue swimmer before he was able to hook it into his harness. Without the rescue sling attached, the rescue swimmer had difficulty connecting to the ERD hoist hook because it sank into the waves. Additionally, once connected, the rescue swimmer had to utilize a physical grip to recover the crewmember because without the sling attached there was no other way to connect

the crewmember to the hoist hook. Because of the strong wave action, the line repeatedly slackened and then became taut, often resulting in sharp, violent jerks to the rescue swimmer. During the last attempt to hoist the rescue swimmer and crewmember via the ERD, a sudden jerk resulted in the rescue swimmer losing his grip on the injured crewmember while the two were being hoisted. That attempt separated the crewmember from the rescue swimmer and injured the rescue swimmer. At this point, the rescue swimmer attempted to swim toward the crewmember but was unsuccessful. It became evident to the flight mechanic the rescue swimmer was injured, so he began to hoist him aboard without the crewmember. As he was hoisted, the rescue swimmer was struck in the back by a wave. After the rescue swimmer was aboard the helicopter, the flight mechanic determined the rescue swimmer needed medical treatment for a potential back injury and difficulty breathing. CG 6003 ended further rescue attempts and requested CG 2001 to deploy a life raft to the survivor. Once this second life raft was deployed, CG 6003 departed the scene, at approximately 0118 on 29 January. The investigation did not determine the proximity from where the life raft landed to the location of the injured crewmember. The injured crewmember was not observed getting into the life raft.

Other Coast Guard air assets were directed to the scene and, at approximately 0350 on 29 October, CG-6025, an H-60 helicopter from Coast Guard Air Station Cape Cod, Massachusetts, located and hoisted the injured crewmember from the water. He was not near the life rafts that had been deployed earlier. The injured crewmember was unresponsive, and the crew of CG 6025 departed the scene en route Coast Guard Air Station Atlantic City, New Jersey, for transfer to awaiting emergency medical services. At approximately 0717 on October 29, the remaining S/V FREEFALL crewmembers were hoisted by CG 6041 from Coast Guard Air Station Elizabeth City and transported to Coast Guard Air Station Atlantic City.

After the mission, the Quick Splice was found behind the air crew life raft located below the SAR closet, which is in the rear of the helicopter cabin. Had the Quick Splice been located and the repair to the hoist cable made, the likelihood of a successful rescue of the crewmember would have been greater, although, given the conditions, still challenging. The Administrative Investigation Team was not able to determine whether the Quick Splice was overlooked during the Post-Flight inspection, was jarred out of its pocket during the flight to the S/V FREEFALL, or was misplaced by the flight mechanic as he performed his duties in darkness and demanding weather conditions, while under extreme stress.

3. Findings and Directed Action:

A. I find that no misconduct was associated with this mishap involving CG 6003 on 28-29 October 2008.

I base this on the following facts:

1. This flight crew did not at any time during the rescue attempt violate procedures required by regulations, official policy, or directives governing the conduct of flight or hoist

operations.

- 2. The owner/operator of S/V FREEFALL requested that he and his crew be evacuated from the vessel due to the questionable seaworthiness of the vessel and the injuries to his crew.
- 3. The PIC on scene has the final authority for whether a hoist will be attempted and was aware not only of the serious concerns S/V FREEFALL crew had for their safety, but believed weather conditions and the condition of the vessel necessitated the removal of the crew.
- 4. On scene weather conditions, including low light illumination, winds averaging 40 knots, with gusts up to 50 knots, and 20-40 foot seas increased the degree of difficulty for conducting hoist operations but the PIC carefully and appropriately weighed these factors against the risk of leaving the crewmembers on a vessel that he believed to be of questionable seaworthiness.

B. Causal Factors.

1. I find that a causal factor of this mishap was the hoist cable became frayed during the hoist.

I base this finding on the following facts:

- a. The hoist cable was caught between the helicopter fuselage and the external fuel tank and was subjected to kinetic forces from the basket being tossed in the waves.
- b. Once the cable became frayed, the damaged section could no longer be used because of the potential that the cable strength had degraded to the point where it would hazard the personnel being hoisted.
- c. The PIC's decision to grant the flight mechanic permission to cut the cable using the cable cutters once the cable became frayed was reasonable and based on standard operational practices.

Action: As a result of this finding, I direct:

- a. CG-711 evaluate the need for additional Flight Manual guidance to address H-60 hoisting operations with right external tanks installed to include hoist cable management and aircraft control techniques to mitigate cable damage.
- b. CG-41 to determine the feasibility of equipping H-60 aircraft with cable chaffing guards in critical areas when right external fuel tanks are installed.

2. I find that a causal factor of this mishap was the flight mechanic's inability to locate the Quick Splice.

I base this finding on the following facts:

- a. Once the PIC gave the flight mechanic permission to cut the frayed hoist cable, it could only be placed back into service through attachment of the Quick Splice.
- b. The flight mechanic could not locate the Quick Splice.
- c. The Pre-Flight inspection for the H-60 helicopter, which is performed daily and is valid for 24 hours, is done in accordance with the Pre-Flight MPC, of which item 34.1. requires all SAR equipment on the aircraft to be inspected and inventoried. SAR equipment is not listed item by item in the Pre-Flight MPC. The Pre-Flight MPC refers the reader to the Air Ops Manual and Flight Manual, both of which describe the Quick Splice as a required piece of equipment for SAR missions.
- d. On the morning of 28 October, CG 6003 was subject to a Pre-Flight inspection done in accordance with the Pre-Flight MPC, and logged into ALMIS.
- e. Later in the day on 28 October, after CG 6003 completed an MSRT flight, the aircraft underwent a Post-Flight inspection done in accordance with the Post-Flight MPC. The inspection was logged into ALMIS.
- f. A Post-Flight inspection, performed in accordance with the Post-Flight MPC, requires, at item 36.p., all SAR equipment be inspected and inventoried. The MPC reader is referred to the Air Ops Manual, and the Flight Manual, both of which describe the Quick Splice as a required piece of equipment for SAR missions.
- g. The Flight Manual's Rescue Checklist Part 1, which is specific to SAR missions, and which was initiated after CG 6003 got underway, does not require confirmation that the Quick Splice is readily accessible to the flight mechanic. Therefore, the flight mechanic would not have checked for the Quick Splice until it became necessary to employ it.
- h. The abbreviated pre-flight check conducted by the rescue flight's flight mechanic and rescue swimmer immediately prior to getting underway is a prudent customary practice intended as a last-minute check for deficiencies and discrepancies prior to flight, not for conducting a complete inventory of SAR equipment.

Action: As a result of this finding, I direct:

- a. CG-711 conduct a review to determine whether the "Quick Splice Accessible" should be added to the Rescue Checklist Part I.
- b. CG-711 coordinate with CG-41 and FORCECOM to conduct a review of existing policies, checklists, and maintenance and gear stowage procedures related to aircraft SAR mission preparation. Based upon findings, implement changes or additions to assist aircrews to ensure critical SAR equipment essential for specific mission accomplishment is aboard the aircraft and stowed properly.

C. Contributory Factor.

I find that a contributory factor to this mishap was a breakdown of Crew Resource Management (CRM) prior to deployment of the ERD.

I base this finding on the following facts:

- 1. CRM is a tool that is taught and highly emphasized in the aviation community. In an effort to minimize human error, CRM stresses clear communications between all members of the air crew.
- 2. There was no communication among the aircrew on how the ERD would be deployed.
- 3. The Coast Guard had never deployed the ERD for an operational rescue.
- 4. The PIC assumed the ERD would be deployed with the rescue sling attached. He was unaware standard procedure calls for the ERD to be deployed without the rescue sling attached.
- 5. The flight mechanic deployed the ERD according to standard procedure.
- 6. There was no communication among the aircrew on how the hoist of the rescue swimmer and crewmember would be accomplished.
- 7. The rescue swimmer could not communicate effectively to the aircrew with his hand held radio.
- 8. Had the PIC communicated his intentions, the flight mechanic would have deployed the ERD with the rescue sling attached.
- 9. Even with the rescue sling attached, accomplishing a successful hoist in the conditions CG 6003 encountered would have been very challenging.

Action: As a result of this finding, I direct:

- 1. FORCECOM conduct a review of the initial and recurrent training syllabus for helicopter pilots and aircrew, in view of potential lessons learned from this mishap, with specific focus on the role of CRM during the execution of recovery of a rescue swimmer and/or survivors using the ERD.
- 2. CG-711 amend the Flight Manual, Series MH-60T helicopter, to add the rescue sling as a required device to be attached to the ERD when deployed to the water and as appropriate, based upon risk assessment, to non-water deployments.
- 3. CG-711 evaluate the ERD for effectiveness in heavy weather hoisting operations.
- 4. CG-41 examine the feasibility of installing dual hoist systems on Coast Guard helicopters.
- 5. CG-711 establish competency requirements for rigging and operating the ERD for both rescue swimmer and survivor hoists for H-60 aircrews.
- 6. CG-41 research and determine the feasibility of implementing a "hands free" communications system that will allow the rescue swimmer to communicate with the helicopter while deployed in the water.
- D. Additional Finding. The following item was not determined to be causal or contributory to this mishap, but was closely related to the incident and is listed here for continual process improvement.

I find the lack of direct communication between the Command Center and the on-scene assets was not a causal or contributory factor to the final outcome of this mishap but highlights the requirement for improved communications capability between Command Centers and on-scene assets.

I base this on the following facts:

- 1. The owner/operator of S/V FREEFALL requested he and the crew be evacuated from the vessel due to the questionable seaworthiness of the vessel and injuries incurred by one of the crew.
- 2. The PIC on scene has the final authority on whether a hoist will be attempted or not and was aware of the serious concerns S/V FREEFALL crew had for their safety. Using appropriate risk management, the PIC made his decision to initiate the rescue hoists based upon the information relayed through the C-130 on scene from the owner/operator and his independent evaluation of the vessel once he arrived on scene.

- 3. The Command Center passed information through CAMSLANT, which relayed it to CG 2001, which relayed it to CG 6003; CG 6003 passed information back through CG 2001, which relayed it to CAMSLANT before it was relayed back to the Command Center. In addition, only CG 2001 could pass information from S/V FREEFALL.
- 4. This communications chain inhibited the Command Center's ability to get timely and accurate information regarding the condition of the vessel, its crew, on scene conditions and the actions being taken by on scene assets.

Action: As a result of this finding, I direct:

Assistant Commandant for Command, Control, Communications, Computers and Information Technology (C4IT) conduct a review of this mishap using a multi-discipline team of Coast Guard aviators, communications technical personnel and senior Coast Guard leaders to catalog lessons learned and initiate communications systems modifications and upgrades.

4. Summary:

The crew of CG 6003 attempted to prosecute this SAR case in the most hazardous conditions. The tragic loss of S/V FREEFALL's crewmember reminds us that we in the Coast Guard must continue to diligently commit and direct our efforts to perform operations as safely and effectively as possible.

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